

AMENDMENTS TO THE ABSTRACT

Please substitute the following paragraph for the abstract now appearing in the currently filed specification:

An illumination system uses rotatable, polarized illumination optics to detect the direction of highly efficient excitation of fluorescent dyes coupled to a sample, or the absorption transition moment, using information on the direction of maximal fluorescence intensity, in which it is possible to detect individual dynamic changes in the internal structure or orientation of an entire protein molecule by coupling a single fluorescent dye molecule to the protein molecule. The polarized total internal reflection illumination optical system by rotary annulus light is also an illumination optical system in which laser beams are introduced into the objective lens of a microscope at the peripheral region by means of the rotatable illumination direction of the laser beams, and is designed to illuminate by the evanescent field that contains only transverse components that are perpendicular to the direction of radiation from the optical axis of the objective lens.